

IN THE CLAIMS

All currently pending claims have been reproduced below. No claims are presently added or amended.

1. (original) A login method comprising
processing a login token, if provided, during a login attempt, wherein the login attempt is impermissible, and thus unsuccessful, if the login attempt occurs before expiration of a first period of time following an unsuccessful login attempt associated with said login token; and
providing an updated login token in response to the login attempt, wherein the updated login token does not permit a subsequent login attempt before expiration of a second period of time if the login attempt is unsuccessful.
2. (original) The login method of claim 1, further comprising maintaining a login-attempt successor indicator, said login-attempt successor indicator indicating whether the login attempt is successful, said login-attempt successor indicator being referenced during the subsequent login attempt
3. (original) The login method of claim 2, further comprising including in the updated login token an attempt successor indicator, said attempt success indicator indicating whether the login attempt is successful, said attempt successor indicator being referenced during the subsequent login attempt.

4. (original) The login method of claim 3, wherein the login-attempt success indicator is a login class, wherein the login class is first-class if the login attempt is successful.

5. (original) The login method of claim 1, further comprising maintaining a time stamp, said time stamp corresponding to the second period of time.

6. (original) The login method of claim 1, further comprising inserting in the updated login token a time stamp, said time stamp corresponding to the second period of time.

7. (original) The login method of claim 1, further comprising maintaining an account identifier, said account identifier corresponding to an account that is the subject of the login attempt, wherein the subsequent login attempt is impermissible if an account that is the subject or the subsequent login attempt does not correspond to the account identifier.

8. (original) The login method of claim 1, further comprising inserting in the updated login token an account identifier, said account identifier corresponding to an account that is the subject of the login attempt, wherein the subsequent login attempt is impermissible if an account that is the subject of the subsequent login attempt does not correspond to the account identifier.

9. (original) The login method of claim 1, further comprising maintaining a network address identifier, said network address identifier corresponding to a network address from which the login attempt originates, wherein the subsequent login attempt is impermissible if a network address from which the subsequent login attempt originates does not correspond to the network address identifier.

10. (original) The login method of claim 1, further comprising inserting in the updated login token a network address identifier, said network address identifier corresponding to a network address from which the login attempt originates, wherein the subsequent login attempt is impermissible if a network address from which the subsequent login attempt originates does not correspond to the network address identifier.

11. (original) The login method of claim 1, further comprising maintaining a password identifier, said password identifier corresponding to a password submitted with the login attempt, wherein the subsequent login attempt is impermissible if a password submitted with the subsequent login attempt does not correspond to the password identifier.

12. (original) The login method of claim 1, further comprising inserting in the updated login token a password identifier, said password identifier corresponding to a password submitted with the login attempt, wherein the subsequent login attempt is impermissible if a password submitted with the subsequent login attempt does not correspond to the password identifier.

13. (original) The login method of claim 1, further comprising inserting in the updated login token a validity stamp, said validity stamp designed to prevent the use of an invalid login token, wherein the login attempt is impermissible if the login token does not include a valid validity stamp.

14. (original) The login method of claim 1, further comprising inserting in the updated login token a nonce, said nonce designed to prevent the reuse of an otherwise valid

login token, wherein the login attempt is impermissible if the login token does include a nonce used in a prior login attempt.

15. (original) The login method of claim 1, further comprising maintaining a count of unsuccessful login attempts.

16. (original) The login method of claim 15, further comprising incrementing the count of the login attempt is impermissible.

17. (original) The login method of claim 15, further comprising incrementing the count if the login attempt is permissible but otherwise unsuccessful.

18. (original) The login method of claim 15, further comprising selecting the second period of time by reference to the count, wherein the second period of time is longer than it otherwise would be if the count reaches a predefined threshold.

19. (original) The login method of claim 15, further comprising selecting the second period of time by reference to the count, wherein the second period of time is longer than it otherwise would be if the count reaches a predefined threshold within a third period of time.

20. (original) The login method of claim 1, wherein the login attempt is impermissible if the login token is not provided during the login attempt.

21. (original) The login method of claim 1, wherein maintaining a count of unsuccessful login attempts to login with a password.

22. (original) The login method of claim 21, further comprising incrementing the count if the login attempt is impermissible and is made with the password.

23. (original) The login method of claim 21, further comprising incrementing the count if the login attempt is permissible but otherwise unsuccessful and is made with the password.

24. (original) The login method of claim 21, further comprising selecting the second period of time by reference to the count, wherein the second period of time is longer than it otherwise would be if the count reaches a predefined threshold and the login attempt is made with the password.

25. (original) The login method of claim 21, further comprising selecting the second period of time by reference to the count, wherein the second period of time is longer than it otherwise would be if the count reaches a predefined threshold within a third period of time and the login attempt is made with the password.

26. (original) The login method of claim 21, wherein the second period of time is not increased as the count increases unless each of the defined number of unsuccessful login attempts to login with the password occur within a third period of time.

27. (original) The login method of claim 21, further comprising invalidating the subsequent login attempt if the count equals a predefined threshold and the password is submitted with the subsequent login attempt.

28. (original) The login method of claim 1, further comprising maintaining a count of unsuccessful login attempts to login with a user name

29. (original) The login method of claim 28, further comprising incrementing the count if the login attempt is impermissible.

30. (original) The login method of claim 28, further comprising incrementing the count if the login attempt is permissible but otherwise unsuccessful.

31. (original) The login method of claim 28, further comprising selecting the second period of time by reference to the count, wherein the second period of time is longer than it otherwise would be if the count reaches a predefined threshold and the login attempt is made with the user name.

32. (original) The login method of claim 28, further comprising selecting the second period of time by reference to the count, wherein the second period of time is longer than it otherwise would be if the count reaches a predefined threshold within a third period of time and the login attempt is made with the user name.

33. (original) The login method of claim 28, wherein the second period of time is not increased as the count increases unless each of the defined number of unsuccessful login attempts to login with the user name occur within a third period of time.

34. (original) The login method of claim 28, further comprising invalidating the subsequent login attempt if the count equals a predefined threshold and the user name is submitted with the subsequent login attempt.

35. (original) The login method of claim 1, further comprising maintaining a count of unsuccessful login attempts to login from a network address.

36. (original) The login method of claim 35, further comprising incrementing the count if the login attempt is impermissible and made from the network address.

37. (original) The login method of claim 35, further comprising incrementing the count if the login attempt is permissible but otherwise unsuccessful and made from the network address.

38. (original) The login method of claim 35, further comprising selecting the second period of time by reference to the count, wherein the second period of time is longer than it otherwise would be if the count reaches a predefined threshold and the login attempt is made from the network address.

39. (original) The login method of claim 35, further comprising selecting the second period of time by reference to the count, wherein the second period of time is longer

than it otherwise would be if the count reaches a predefined threshold within a third period of time and the login attempt is made from the network address.

40. (original) The login method of claim 35, wherein the second period of time is not increased as the count increases unless each of the defined number of unsuccessful login attempts to login from the network address occur within a third period of time.

41. (original) The login method of claim 35, further comprising invalidating the subsequent login attempt if the count equals a predefined threshold and the subsequent login attempt is made from the network address.

42. (original) The login method of claim 1, wherein

the second period of time is a first length if the login attempt is one in a series of unsuccessful login attempts associated with the login token, which follow a successful attempt associated with the login token, if the series of unsuccessful login attempts does not include more than a predefined number unsuccessful login attempts;

the second period of time is a second length if the login attempt is one in a series of unsuccessful login attempts associated with the login token, which follow a successful attempt associated with the login token, if the series of unsuccessful login attempts includes the predefined number unsuccessful login attempts;

the second period of time is a third length if the login attempt does not follow a successful attempt associated with the login token, said third length exceeding the first length; and

the second period of time is a fourth length if the login token is not provided during the login attempt, said fourth length exceeding the first length.

43. (original) The login method of claim 1, further comprising processing a second login token, if provided, during a second login attempt, wherein the login cookie provided in response to the second login attempt does not permit a subsequent login attempt at least until the second period of time has expired twice since the login attempt.

44. (original) A login method comprising
processing a login attempt to determine whether the login attempt is successful,
said login attempt being successful if permissible and submitted with a
valid user name and password combination;
providing a first-class login token if the login attempt is successful, said first-class login token permitting a predefined number of unsuccessful login attempts without imposing more than a first time delay between each of said unsuccessful login attempts;
providing a second-class login token if the login attempt is unsuccessful and a login token submitted with the login request is second-class, wherein a subsequent login attempt made with said second-class login token is not permissible if submitted prior to expiration of a second time delay, said second time delay exceeding said first time delay;
providing the second-class login token if the login attempt is unsuccessful and is the last of a series of unsuccessful login attempts associated with a first-class login token, said series including more than the predefined number of unsuccessful login attempts; and

providing the second-class login token if a login token is not submitted with the login attempt, said login attempt not being permissible.

45. (original) The login method of claim 44, wherein the login attempt is not permissible if a login token submitted with said login attempt is invalid.

46. (original) The login method of claim 44, wherein the login attempt is not permissible if said login attempt is made prior to expiration of a time delay associated with a login token submitted with said login attempt.

47. (original) A computer program product for use in conjunction with a computer system, the computer program product comprising a computer readable storage medium and a computer program mechanism embedded therein, the computer program mechanism comprising:

instructions for processing a login attempt to determine whether the login attempt is successful, said login attempt being successful if permissible and submitted with a valid user name and password combination;

instructions for providing a first-class login token if the login attempt is successful, said first-class login token permitting a predefined number of unsuccessful login attempts without imposing more than a first time delay between each of said unsuccessful login attempts;

instructions for providing a second-class login token if the login attempt is unsuccessful and a login token submitted with the login request is second-class, wherein a subsequent login attempt made with said second-class login token is not permissible if submitted prior to

expiration of a second time delay, said second time delay exceeding said first time delay;

instructions for providing the second-class login token if the login attempt is unsuccessful and is the last of a series of unsuccessful login attempts associated with a first-class login token, said series including more than the predefined number of unsuccessful login attempts; and
instructions for providing the second-class login token if a login token is not submitted with the login attempt, said login attempt not being permissible.

48. (original) A computer program product for use in conjunction with a computer system, the computer program product comprising a computer readable storage medium and a computer program mechanism embedded therein, the computer program mechanism comprising:

instructions for processing a login token, if provided, during an attempt to login, wherein the login attempt is impermissible if the login attempt occurs before expiration of a first period of time following an unsuccessful login attempt associated with said login token; and
instructions for providing an updated login token in response to the login attempt, wherein the updated login token does not permit a subsequent login attempt before expiration a second period of time if the login attempt is impermissible.

49. (original) A computer system for processing login requests, comprising:

a first-class login server and a second-class login server, said first-class login server and said second-class login server each including a storage unit and a processor, said storage unit configured to store login information, said processor configured to process login requests with reference to said login information;

the first-class login server and the second-class login server each configured to process a login attempt to determine whether the login attempt is successful, said login attempt being successful if permissible and submitted with a valid user name and password combination;

the first-class login server configured to process login attempts made with a first-class login token and the second-class login server configured to process login attempts made with a second-class login token;

the first-class login server and the second-class login server each further configured to provide a first-class login token if the login attempt is successful, said first-class login token permitting a predefined number of unsuccessful login attempts without imposing more than a first time delay between each of said unsuccessful login attempts;

the second-class login server further configured to provide a second-class login token if the login attempt is unsuccessful, wherein a subsequent login attempt made with said second-class login token is impermissible if submitted prior to expiration of a second time delay, said second time delay exceeding said first time delay; and

the first-class login server further configured to provide a second-class login token if the login attempt is unsuccessful and the login attempt is the last of a series of unsuccessful login attempts associated with a specific

first-class login token, said series including more than the predefined number of unsuccessful login attempts.

50. (original) The computer system of claim 49, wherein the second-class login server is further configured to serially process login attempts.

51. (original) The computer system of claim 50, wherein the second-class server is further configured to process login attempts at a defined rate.

52. (original) The computer system of claim 51, wherein the second-class server is further configured to decrease the defined rate in response to an occurrence of a set of unsuccessful login attempts.

53. (original) The computer system of claim 51, wherein the second-class server is further configured to decrease the defined rate if a defined number of unsuccessful login attempts occur during a defined period of time.

54. (original) The computer system of claim 53, wherein the second-class server is further configured to increase the defined rate if the defined number of unsuccessful login attempts do not occur during the defined period of time.

55. (original) The computer system of claim 49, wherein the first-class login server is the default login server such that all login attempts are initially processed by said first-class login server, which is configured to redirect login attempts made with a second-class login token to the second-class login server.